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ABSTRACT

Research questions addressed were: (1) Do homogeneous rejected groups of children score higher on antisocial behavior and aggression than mixed-status groups? (2) Are rejected children less antisocial and aggressive when playing with same-status peers than with other-status peers? (3) Are rejected children as disliked for being aggressive in homogeneous rejected groups as in mixed-status groups? Two waves of data collection each consisted of a sociometric screening phase and a play sessions phase. Based on sociometric scores in Wave I, 114 kindergarten and 117 first-grade boys were selected to participate in four play sessions in triads, creating a total sample of 231 boys and 77 triads. Triads were either homogeneous rejected, heterogeneous or mixed, or homogeneous popular. In Wave II, a year after Wave I, the selected boys' status was determined in their new classes, and 70 of the original 77 triads participated in four play sessions. Each session consisted of a cooperative, a competitive, and an unstructured game. All sessions were videotaped and coded for social behavior. In individual interviews, boys evaluated their own and their play partners' social behaviors. Three sets of analyses were performed using adult ratings of antisocial behavior, objective codings of aggressive acts, and post-play peer ratings for liking versus disliking. Results are discussed and tables and figures are attached. (RH)

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Aggression and Liking in Same-Status versus Different-Status Groups

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The relationship between aggression and rejection has usually been investigated in groups that are heterogeneous with respect to the group members' sociometric status. However, social interactions between children also take place in groups that are homogeneous with respect to social status. For example, a homogeneous rejected group is formed when rejected children are placed together in an intervention group. Research has also documented the spontaneous occurrence of same-status peer groups at school. Observations by Ladd in 1983 showed that popular and unpopular children formed their own unique networks on the playground. And Cairns and others in a recent paper demonstrated the existence of separate clusters of high-status and low-status peers within classes.

Because rejected children generally have shown to be more aggressive than children of other status types, one would expect more aggression in groups with more rejected children. This leads to the prediction that more aggression will take place in homogeneous rejected groups as compared to mixed-status groups of the same size. This does not necessarily imply, however, that rejected children, on an individual level, are more aggressive in homogeneous rejected groups than in mixed-status groups. A rejected child's social context consists of rejected peers in homogeneous rejected groups and of other-status peers in mixed-status groups. This difference effects the behavioral reactions and the group norms that rejected children are confronted with in both contexts. With respect to behavioral reactions, Coie argued in 1987 that rejected children's aggression is reinforced by the submitting behaviors of other-status play partners in mixed-status groups. Rejected play partners are not expected to show these submitting behaviors, and this might cause rejected children to be less aggressive in homogeneous rejected groups than in mixed-status groups. With respect to group norms, following a paper by Wright and others in 1986, aggression might be a more accepted behavior in rejected groups than in mixed groups. Consequently, while aggression strongly predicts disliking in mixed groups, this might be less true in rejected groups.

In sum, three research questions are the focus of this paper. First, do homogeneous rejected groups score higher on antisocial behavior and aggression than

mixed-status groups? Second, are rejected children less antisocial and aggressive when playing with same-status peers as compared to interactions with other-status peers? And, third, are rejected children equally being disliked for being aggressive in homogeneous rejected groups as they are in mixed-status groups?

It must be noted here that time has shown to be a very important variable in research on peer status and aggression (e.g., Dodge, 1987). It might very well be true that differences between homogeneous and heterogeneous peer groups do not appear immediately, but emerge only after interactions within groups have developed over some time. Therefore, exploration of our research questions would require that aggression and liking on the group level and on an individual level are observed over time. We actually collected data fulfilling this requirement as part of a research project in the Netherlands. In this project, originated by Dr. Tamara Ferguson, longitudinal data were collected in 1986 and 1987 by a team of co-workers. Today I would particularly like to mention Henk van IJzendoorn who has been a central member of our research team since 1985 and who very much contributed to all phases of the project. The primary purpose of our study was to test several hypotheses regarding the self-perpetuating nature of children's peer relations, for which results are currently being reported in my dissertation and in a chapter we have been writing (Cillessen & Ferguson, in press).

The design of our project was inspired by previous research by Coie and Kupersmidt (1983) and by Dodge (1983). In our study, two waves of data collection consisted each of a sociometric screening phase and a play sessions phase. Based on sociometric scores in the first wave, 114 Kindergarten boys and 117 first-grade boys were selected to participate in four play sessions with a one-week interval in triads, that is, in play groups of three boys each. Table 1 presents the number of triads for each age group. The 114 Kindergarten boys formed 38 triads and the 117 first-grade boys formed 39 triads, creating a total sample of 231 boys in 77 triads. Table 1 also illustrates in what way triads differed in social status composition. Triads were either homogeneous rejected, heterogeneous or mixed, or homogeneous popular. Rejected triads consisted of three rejected boys, mixed triads consisted of one popular boy, one rejected boy, and one

neglected boy, and popular triads consisted of three popular boys. It should be noted here that in each combination of triad type and age at the start of the play sessions, in half the triads boys were familiar to each other (they were classmates), and in half the triads boys were unfamiliar to each other (they came from the same grade level of separate schools). Effects for familiarity, however, were not tested here because they are beyond the scope of our present research questions. In Wave II, one year after Wave I, the selected boys' status was determined again in their new classes, and 70 of the original 77 triads participated again in four play sessions.

To elicit a variety of social interactions, each play session consisted of a cooperative, a competitive, and an unstructured game. All sessions were videotaped to be coded for social behavior afterwards. In individual interviews before and after play sessions, boys evaluated their own and their play partners' social behaviors. From these data, for the purpose of the present study, three sets of analyses were performed using adult ratings of antisocial behavior, objective codings of aggressive acts, and post-play peer ratings for liking versus disliking.

First, after each play episode in a session, each boy's social behavior towards each play partner in a triad was rated by two independent coders on a five-point scale as very antisocial, antisocial, neutral, prosocial, or very prosocial. To analyze these data on a group level, we computed the proportion of scores in a play session coded as very antisocial or antisocial in every triad. Figure 1 presents the mean proportions for rejected, mixed, and popular triads of each age group averaged across the four sessions of each wave. Although popular triads are not the focus of our study, they are included for the purpose of comparison. Analysis of variance demonstrated a significant main effect for triad type. Contrasts showed that rejected triads scored significantly higher than popular triads, and although rejected triads also scored higher than mixed triads, the difference between rejected and mixed triads was not significant. When we looked at antisocial proportion scores across play sessions, as presented in Figure 2, rejected triads were significantly more antisocial than popular triads in all sessions, except for the second

session of each series. In addition, a significant increasing trend for antisocial behavior over play sessions was present in each wave.

To analyze these data on an individual level, similar antisocial proportions were computed for each boy in each play session. In these individual analyses, account was taken of the fact that subjects participated in triads with triads being a nested factor within triad types. As shown in Figure 3, we found that rejected boys were significantly more antisocial than popular boys, but we found no overall differences for the homogeneity versus heterogeneity of triads. Separate analyses per age group and wave, as illustrated in Figure 4, indicated an effect for homogeneity for Kindergarten boys in the first measurement year, that interacted with the play sessions factor. This interaction was caused by the fact that, contrary to expectations, rejected boys in rejected triads were more antisocial than their rejected peers in mixed triads, and increasingly so over sessions.

In other words, in these first individual analyses, the status homogeneity versus heterogeneity of triads apparently affected rejected boys only at a very young age. However, global ratings regarded antisocial behavior instead of aggression specifically, and might also have been based, for example, on incidents of disruptive play behaviors. Therefore, a second set of analyses was performed using detailed codings of aggressive acts that were available for nine first-grade rejected triads and nine first-grade mixed triads in Wave I. In these codings, behaviors that were not parallel play or task behaviors were seen as critical incidents for a child's social standing in the group, and were coded using six main categories, that were cooperative behaviors, aggression, disruptive acts, shyness, help seeking behaviors, and leadership, each with several subcategories. Table 2 presents the percentages of behaviors coded in the aggressive subcategories and summed to a total aggression score. The total aggression percentage hardly differed for the nine rejected triads versus the nine mixed triads, with means of 26% versus 29% respectively. Figure 5 presents the aggression proportions on the group level for rejected and mixed triads per session. Analysis demonstrated a main effect for play sessions, qualified by a session by triad interaction. Mixed triads had lower aggression scores than

rejected triads in session 1, scored equally in session 2, but were significantly more aggressive than rejected triads as indicated by univariate tests in sessions 3 and 4. Trend analysis resulted in no significant trend for rejected triads, but a linearly increasing trend over time for mixed triads.

Figure 6 shows us the aggression proportions on the individual level for rejected boys in rejected triads, and for rejected, popular, and neglected boys in mixed triads. There were no significant subgroup differences in sessions 1 and 2. In session 3, rejected boys in rejected triads scored significantly lower than both rejected and neglected boys in mixed triads, and similarly to popular boys in mixed triads. In session 4, rejected boys in rejected triads also scored significantly lower than rejected boys in mixed triads, and still below neglected and popular boys in mixed triads, although those differences were not significant here. Trend analysis for each subgroup separately demonstrated no significant trend over time for rejected boys in rejected triads, but significantly increasing trends for rejected, neglected, and even popular boys in mixed triads.

The third and last part of our analyses was meant to study whether aggression equally predicted disliking for rejected boys in rejected triads versus mixed triads. From post-play ratings by the two play partners on a five-point scale, a mean liked rating was calculated for each rejected boy and was correlated with the observed aggression scores. Table 3 presents the correlations between aggression and liking for rejected boys in rejected and mixed triads in every play session. Different group norms for aggression predicted negative correlations between aggression and liking only for mixed triads. In rejected triads, consistent with what we predicted, there very clearly was no relationship between aggression and liking in the first three sessions. A negative correlation was found in session 4, that approached significance. In mixed triads, aggression as expected strongly predicted disliking in session 1. However, correlations in later sessions were not significant. What might have happened here is that initially formed evaluations perpetuated themself to following sessions, where actual levels of aggression could not change previously formed impressions easily. This explanation is tentative, however, and the small number of subjects requests caution in interpreting these data.

To summarize, ratings demonstrated more antisocial behavior in rejected triads as compared to popular triads and for rejected boys as compared to popular boys. Group status homogeneity affected antisocial behavior only in rejected boys at a very young age, and only after they had been interacting repeatedly in triads. However, detailed analysis of aggression on the group and individual level leaded to three major findings. First, a constant level of aggression was observed in rejected triads across play sessions. Second, in mixed triads, aggression started at similar levels as rejected triads, but increased to levels significantly higher than rejected triads in sessions 3 and 4. And third, this increasing trend in mixed triads was caused by an increase of aggression not only for rejected boys, but for neglected and popular boys in these triads as well. Finally, aggression marginally predicted disliking in rejected triads after three play sessions, whereas a strong relationship was found in mixed triads in the first play session.

In conclusion, the status homogeneity versus heterogeneity of groups or clusters in which children interact seems to be an important context variable for children's peer relations. A striking finding was the increase of aggression of rejected, neglected, and popular boys in mixed triads over sessions. Causal inferences are not possible here, but one would like to know whether rejected boys caused their play partners to be more aggressive, to which rejected boys in turn reacted, or whether such a sequence was started by the rejected boys' play partners. Remarkably, the increase of aggression did not appear in interactions between three rejected boys. Following these findings, it is important to explain exactly what happens within dyads on a detailed level and find out in what ways rejected-rejected interactions are different from interactions of rejected children with other-status peers. We hope to study this in the future, now that in our project detailed dyadic observations are being used for all boys in all triads. It remains a question, however, whether context effects in peer groups can be fully explained from interactions on a dyadic level. In addition to analyzing homogeneity effects, our study replicated the importance of investigating peer relations over time. When looking at children's social contexts as dynamic systems, and studying relational and behavioral patterns in different contexts, the way these patterns develop over time is essential.

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TABLE 1
Number of Triads
by Triad Type and Age

Triad Type	Kindergarten	First Grade
Rejected	14	14
Mixed	12	13
Popular	12	12
Total	38	39

FIGURE 1
Antisocial Behavior
by Triad Type and Age

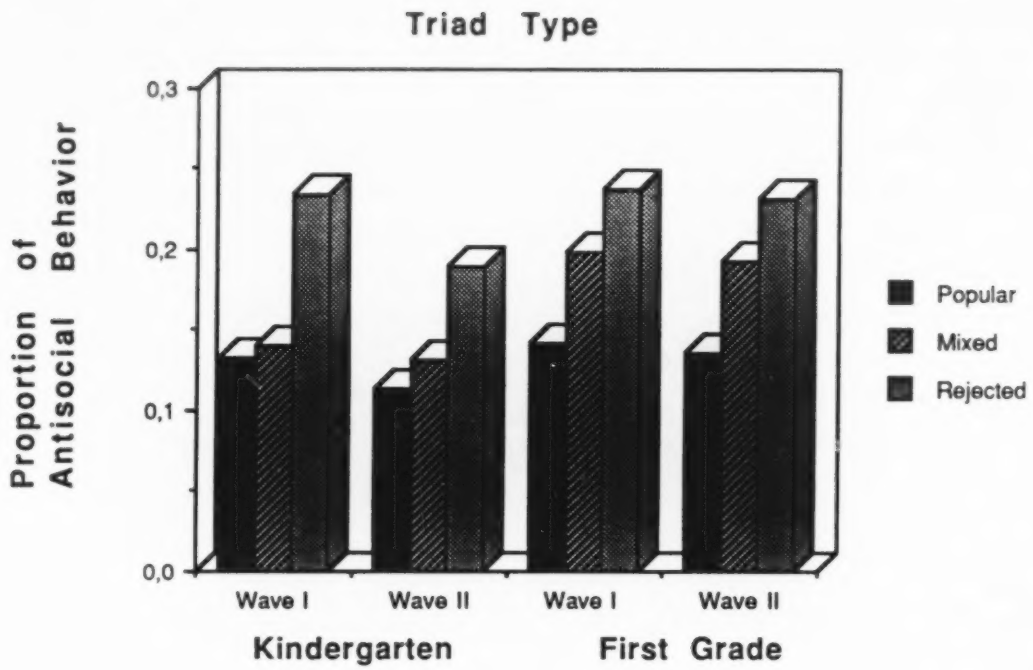

FIGURE 2
Antisocial Behavior Across Play Sessions
by Triad Type and Age

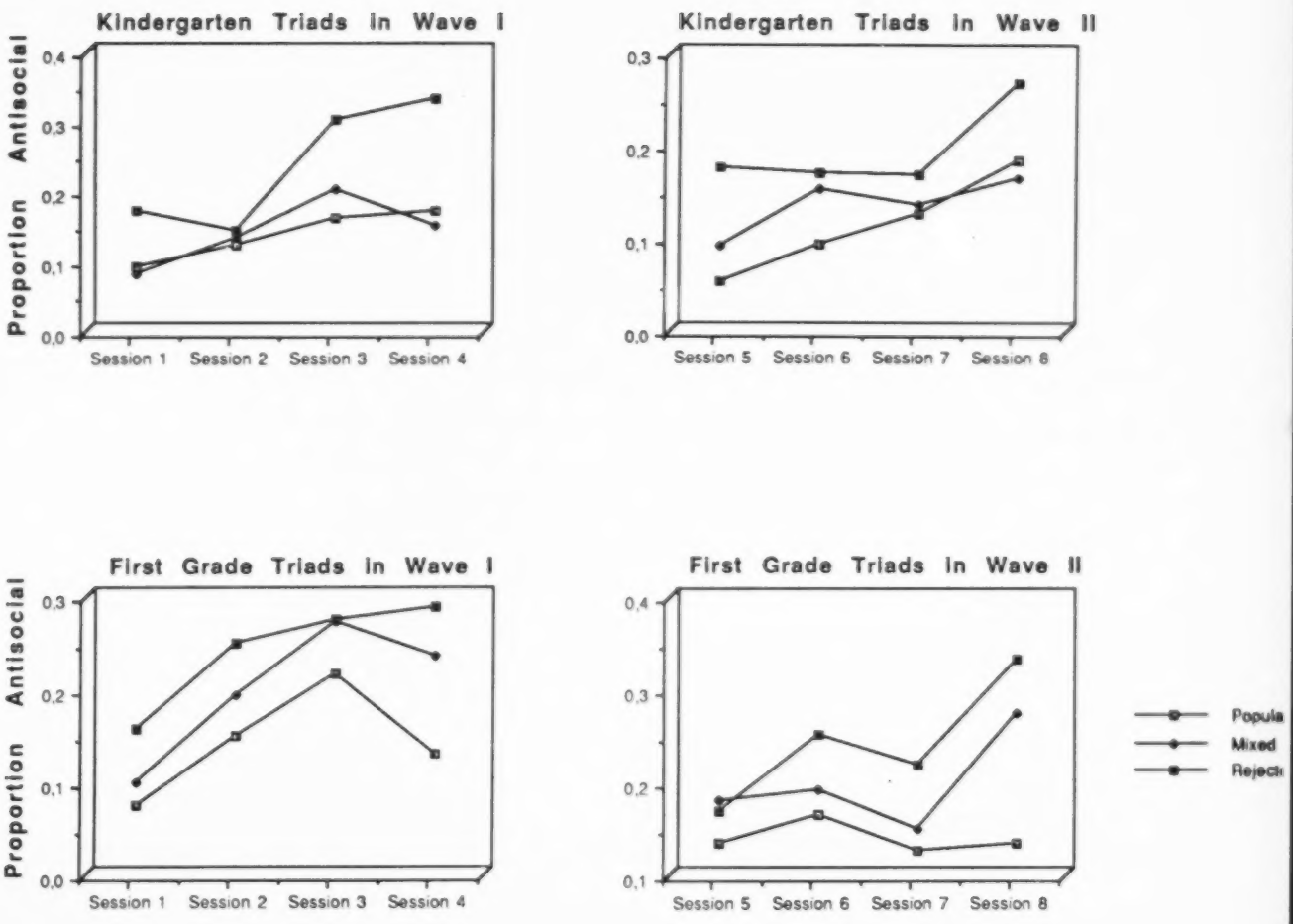

FIGURE 3
Antisocial Behavior
by Status, Homogeneity, and Age

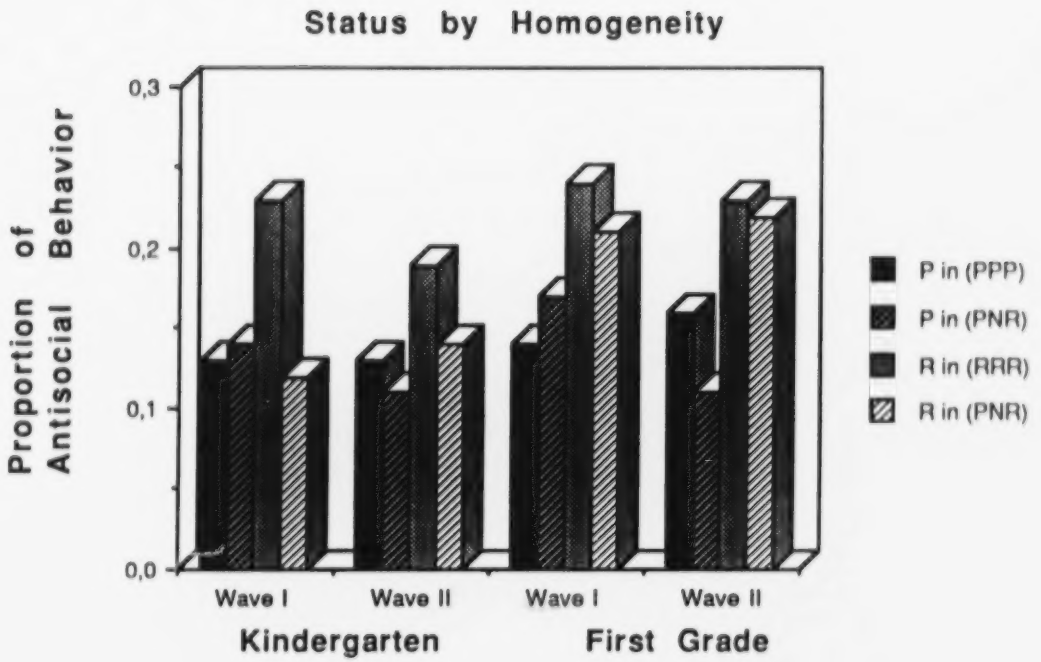

FIGURE 4
Antisocial Behavior Across Play Sessions
by Status, Homogeneity, and Age

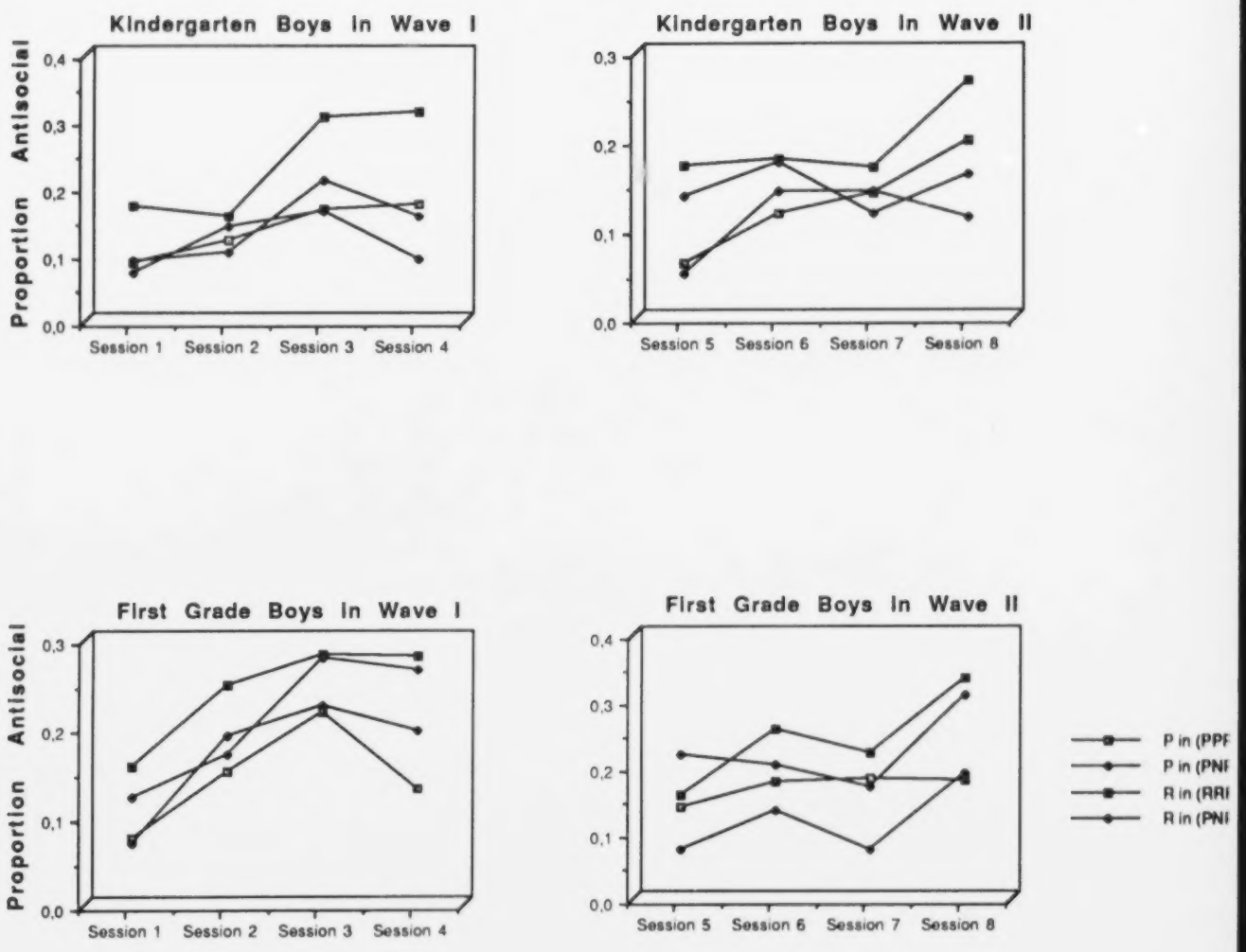

TABLE 2
Percentages of Aggressive Acts
in Rejected versus Mixed Triads

Subcategory	Rejected	Mixed
Negative Verbalization	10,22	9,79
Protest/Argue	13,09	15,32
Threat	0,54	0,34
Strong Attack	0,48	0,25
Negative Reactive Behavior	0,22	0,16
Fighting	0,41	0,20
Object/Position Struggle	1,19	2,63
Aggression	26,15	28,68

FIGURE 5
Aggression Across Play Sessions
by Triad Type

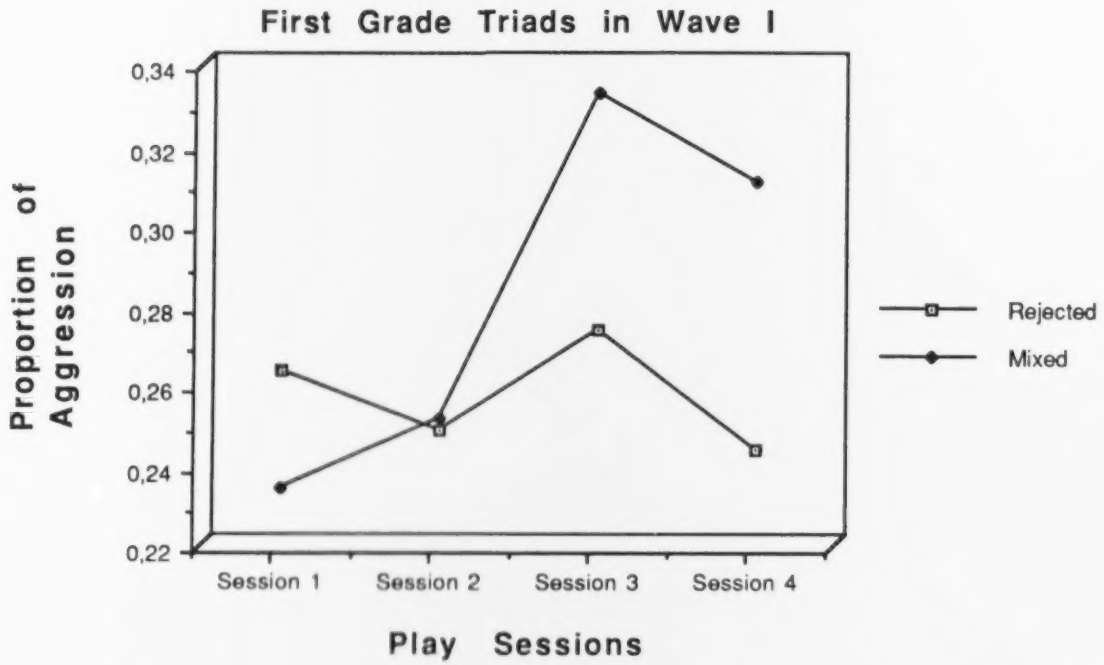

FIGURE 6
Aggression Across Play Sessions
by Status and Homogeneity

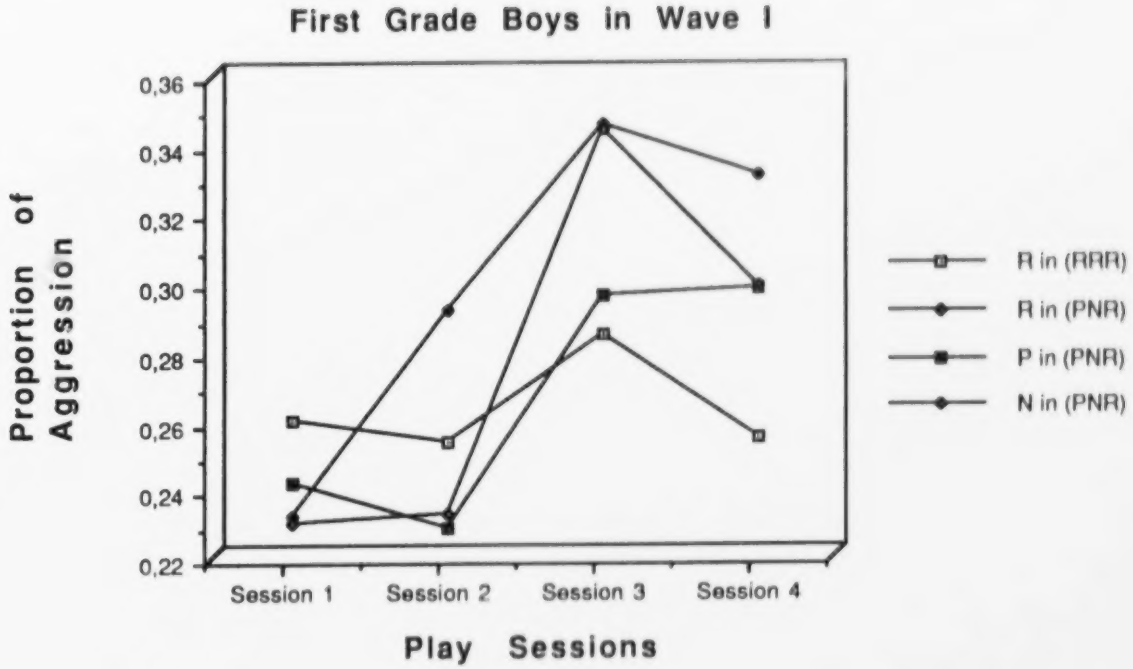

TABLE 3

Correlations Between Aggression and Liking
in Rejected versus Mixed Triads

Sessions	Rejected (n=27)	Mixed (n=9)
1	-.02	-.77 *
2	+.06	-.23
3	-.05	-.26
4	-.31	+.41

* $p < .05$

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AGGRESSION AND LIKING IN SAME-STATUS VERSUS DIFFERENT-STATUS GROUPS.

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The relation between aggression and status has usually been investigated in groups that are heterogeneous with respect to social status. One might ask whether the status composition of a group correlates with quantitative and qualitative aspects of aggression. Rejected children's aggression was investigated in homogeneous and heterogeneous status groups at both the group and individual level.

A total of 144 5-8 year-old boys formed 24 homogeneous rejected triads and 24 heterogeneous triads (rejected, neglected, popular). Boys within triads were familiar to each other and participated in four weekly play sessions. After each session each boy indicated his liking for each play partner using ratings and paired comparisons. Videotape recordings were made of each session. Each 10-second interval of an 18-minute sample from each recording was coded for types of aggressive occurrences.

More instrumental aggression was found in heterogeneous groups than in homogeneous groups, but no group differences for hostile aggression or for the total amount of aggression. This same pattern of results was found for individual rejected boys in heterogeneous vs. homogeneous groups. Rejected boys' received liking scores did not differ between group types but decreased across sessions. Negative correlations between aggression and liking were more pronounced in homogeneous groups and also differed across sessions. Results have implications for whether social status not only reflects individual characteristics but also group characteristics.

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KEY WORDS: Peer , Aggression , Context